

REMARKS/ARGUMENTS

The specification has been amended on several pages to update the status of cited pending U.S. patent applications and to correct a typographical error in the number of an issued U.S. Patent. Claim 8 has been amended as discussed below. Claim 18 has been amended to correct a typographical error. No new matter is presented with these amendments.

A **Rule 131 Declaration** signed by Applicant Sharon Simpson is being presented herewith for reasons noted below.

Rejection Under 35 U.S.C. §112(2)

I. Claim 8 has been rejected under 35 U.S.C. §112 2nd paragraph as being vague and indefinite for depending from itself. This rejection is overcome by correcting Claim 8 to depend from Claim 1. Basis for this dependency is found on page 7, line 6 and on page 31, line 24 to page 32, line 8.

Rejection Under 35 U.S.C. §102(e)

II. Claims 1-24 have been provisionally rejected under 35 U.S.C. §102(e) as being anticipated by copending Application 10/715,199 that has a common assignee with the copending application.

Applicants' Remarks:

This rejection is respectfully traversed in view of the enclosed **Rule 131 Declaration** in which Applicant Sharon Simpson presents a description of experiments in which she conceived and reduced to practice the presently claimed invention prior to the November 17, 2003 priority date of copending and commonly assigned U.S. Serial No. 10/715,199. Thus, Applicant believes that she has effectively “sworn behind” U.S. Serial No. 10/715,199, thereby obviating its use as a reference under Section 102(e).

Rejection Under 35 U.S.C. §103

III. Claims 1-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Sakizadeh et al. (U.S. 6,762,013) in view of Strijckers (U.S. 6,376,159).

This rejection is respectfully traversed for reasons presented below after a brief discussion of Applicant's claimed invention.

Applicants' Invention:

Photothermographic materials often suffer from problems during storage and before imaging. One particular problem, known as "natural age keeping," is the tendency of D_{min} in unexposed areas to increase during storage. This problem becomes more acute as photothermographic materials with increased photospeed are developed. For example, the addition of various chemical sensitizing compounds can increase photospeed, but the addition of such compounds may sometimes diminish the "natural age keeping" properties of the photothermographic materials.

Applicant has found that the addition of a small amount of certain aliphatic and non-aromatic carbocyclic polycarboxylic acids provides an improvement in natural age keeping properties of organic-solvent based photothermographic materials. This improvement has been particularly observed for organic-based photothermographic materials containing phosphors in the photothermographic emulsion layer.

Applicant's claimed invention is to an organic solvent-based photothermographic materials and methods of forming an image using these materials. The organic solvent-based photothermographic materials comprise a support and one or more imaging layers. The imaging layers comprise a hydrophobic binder and a non-photosensitive source of reducible silver ions comprising a silver carboxylate, a phenolic reducing agent for the reducible silver ions and an aliphatic or non-aromatic carbocyclic polycarboxylic acid that is present in an amount of from about 0.0004 to about 0.01 mol/mol of total silver (or from about 0.0015 to about 0.0375 g/m²). The photothermographic material may optionally include an X-radiation-sensitive phosphor.

Rebuttal of Rejection:

Applicant respectfully submits that the combination of Sakizadeh et al. and Strijckers does not render the invention obvious under 35 U.S.C. §103.

Sakizadeh et al. is cited to describe a typical organic solvent based photothermographic material comprising a binder and a photosensitive silver halide, a non-photosensitive source of reducible silver ions but the Office Action admits that it lacks a polycarboxylic acid.

The Office Action relies upon Strijckers to allegedly supply the teaching that Sakizadeh et al. lacks. The Examiner asserts that it would have been obvious to one skilled in the art to incorporate a polycarboxylic acid of Strijckers into the organic solvent-based photothermographic element of Sakizadeh et al. with an expectation of achieving the advantages found by Applicant.

Applicant disagrees with this reasoning because Strijckers teaches away from her invention in at least three important features: the problem to be solved by the addition of the polycarboxylic acid, and the type and amount of polycarboxylic acid used to solve that problem.

First, the problem addressed by Applicant is entirely different from that addressed by Strijckers. Strijckers is concerned with providing a blue (photo)thermographic material using a colorless support. The addition of an aliphatic or aromatic polycarboxylic acid to the (photo)thermographic formulation is optional and no reason is given for its addition (column 6, line 59 to column 7, line 13). Strijckers fails to appreciate or give any hint of the “NAK” problem solved by Applicant. Thus there is no motivation to choose the significantly smaller amount of polycarboxylic acid compared to that used by Strijckers to solve an entirely different problem, i.e. to achieve such a dramatic improvement in natural age keeping properties of a photothermographic material.

Second, Strijckers teaches that aliphatic or aromatic polycarboxylic acids are equivalent. From a reading of Strijckers, one skilled in the art would not be motivated to choose only an aliphatic or non-aromatic polycarboxylic acid because a preference is given for aromatic over aliphatic compounds in the reference. The photothermographic materials shown in the Examples appear to

contain only aromatic polycarboxylic acids (Col. 15, lines 6-14) so a worker skilled in the art would naturally consider those compounds as the preferred ones to use among the hundreds of possibilities suggested in the "boilerplate" (Col. 6, line 59 to Col. 7, line 13).

Finally, Strijckers teaches that when at least one polycarboxylic acid or anhydride is added to the photothermographic recording materials "at least 20 mole % with respect to all the organic silver salts present" (column 6, line 59 to column 7, line 13) is necessary. This is a very large amount of polycarboxylic acid but no reason is given either for the use of polycarboxylic acids or for the amount used.

In contrast, Applicant requires only 0.0004 to 0.01 mole of aliphatic or non-aromatic polycarboxylic acid per mole of total silver, and this is from 0.04 to 1 mole % with respect to the total amount of silver. This is from 1/500 to 1/20 the mol % taught by Strijckers. [Applicant is aware that Strijckers uses moles per mole of all the organic silver salts present, while Applicant uses moles per mole of total silver. However, Strijckers notes that his photothermographic emulsion contains approximately 9 mol % silver halide (column 14, line 38). This would reduce the comparison between Strijckers' and Applicant's mol % by a small amount without changing Applicant's arguments.]

Thus, it is believed that the combination of Sakizadeh et al. and Strijckers is a faulty basis for an unpatentability rejection and that this rejection should be withdrawn.

Conclusion:

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the examiner is earnestly solicited.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 27,678

J. Lanny Tucker/s-p
Rochester, NY 14650
Telephone: (585) 722-9332
Facsimile: (585) 477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.